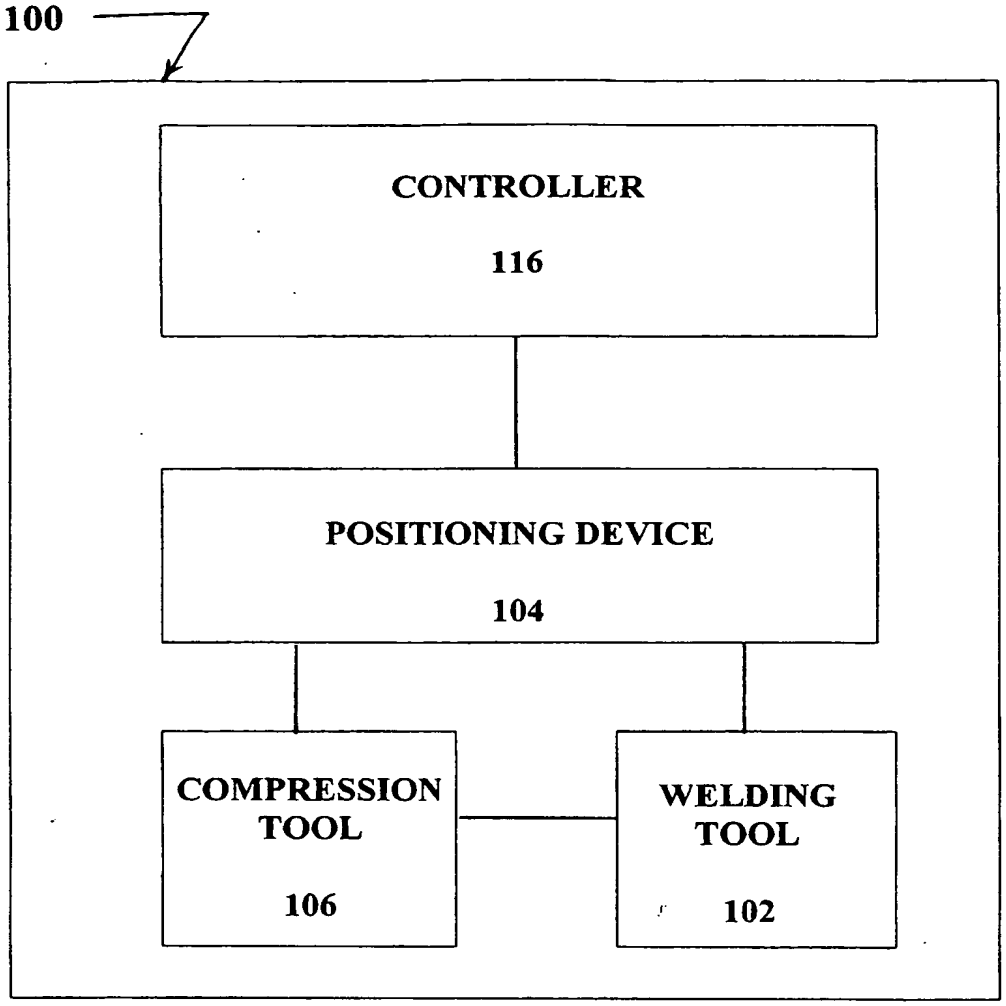
FIG. 1


100
CONTROLLER
116
POSITIONING DEVICE
104
COMPRESSION TOOL
106
WELDING TOOL
102

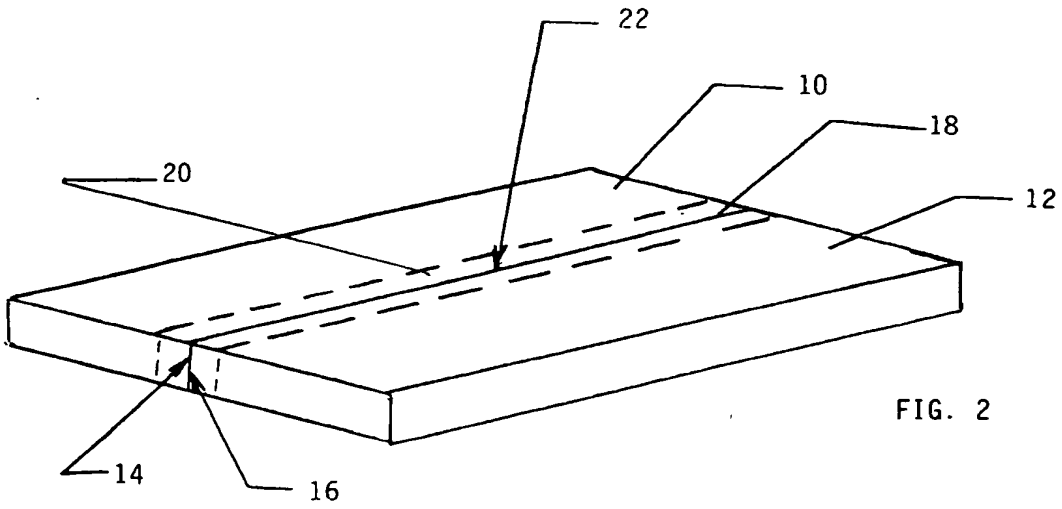


FIG. 2

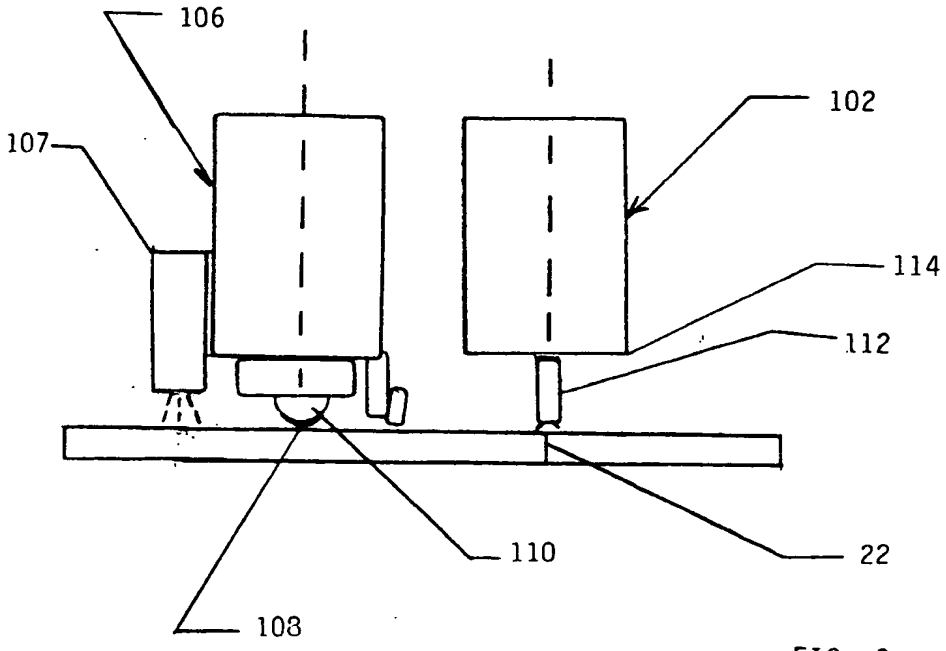
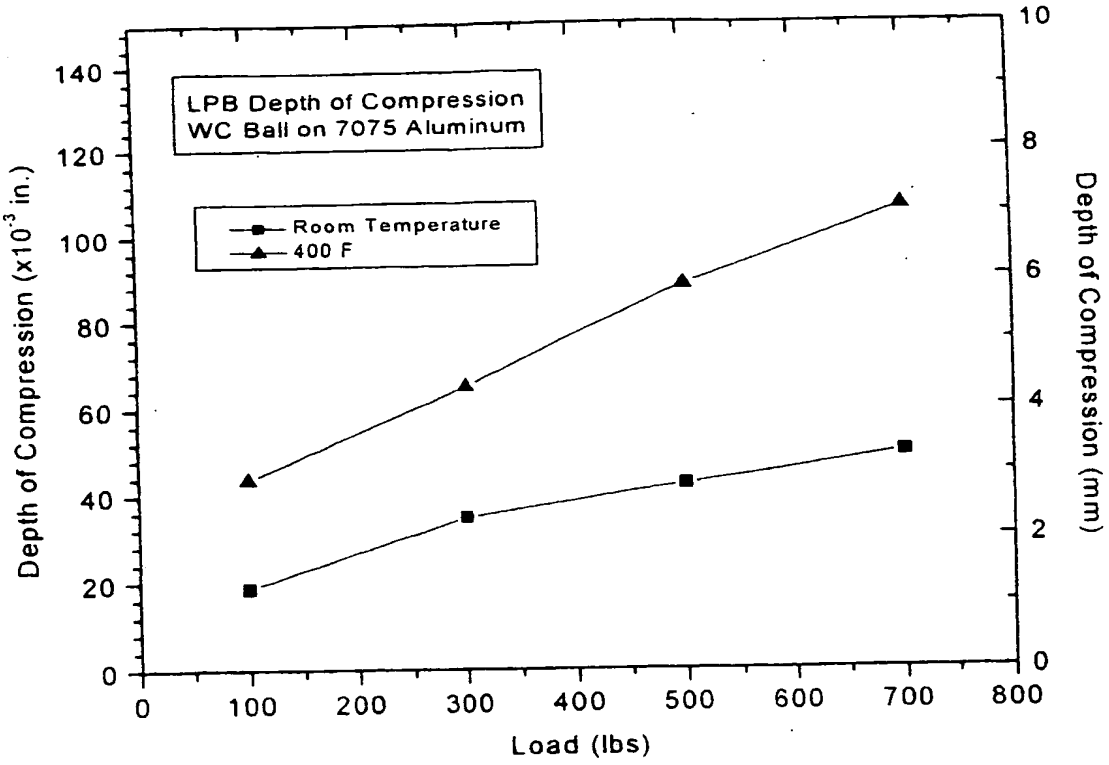


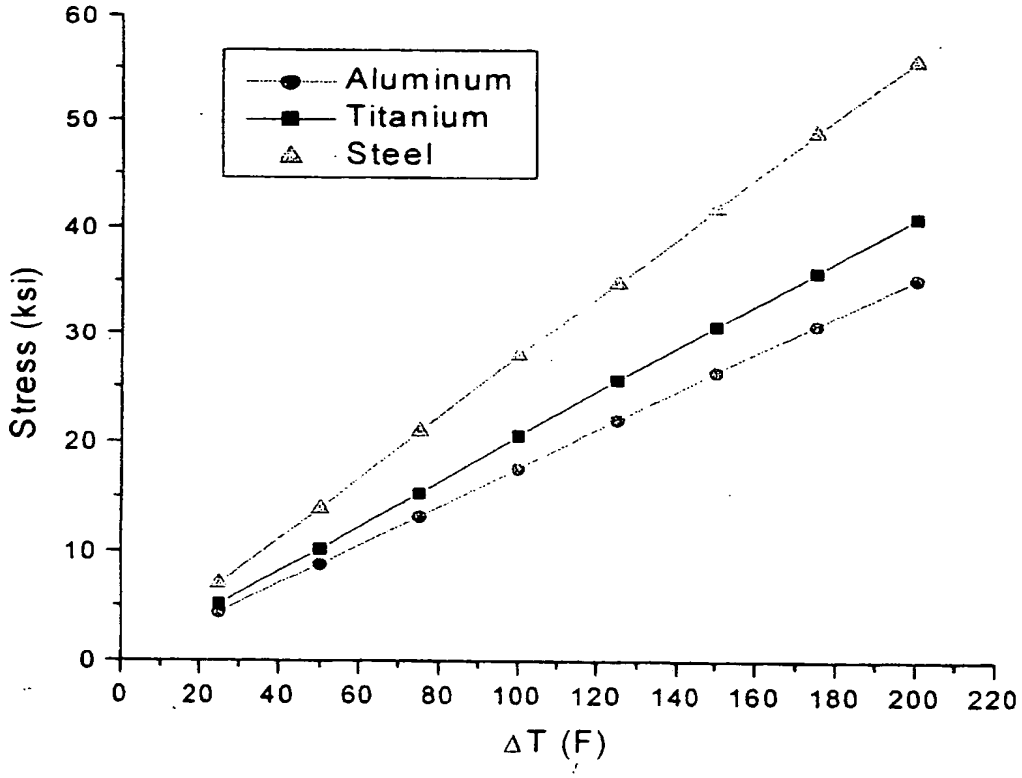
FIG. 3

FIG. 4



: Depth of compression achieved with increasing load in spherical ball burnishing using a 0.75 in. ball at room and elevated temperature of 400F.

FIG. 5



Surface tensile stress developed by cooling the surface plotted as a function of the temperature differential achieved between the surface and interior.

FIG. 6

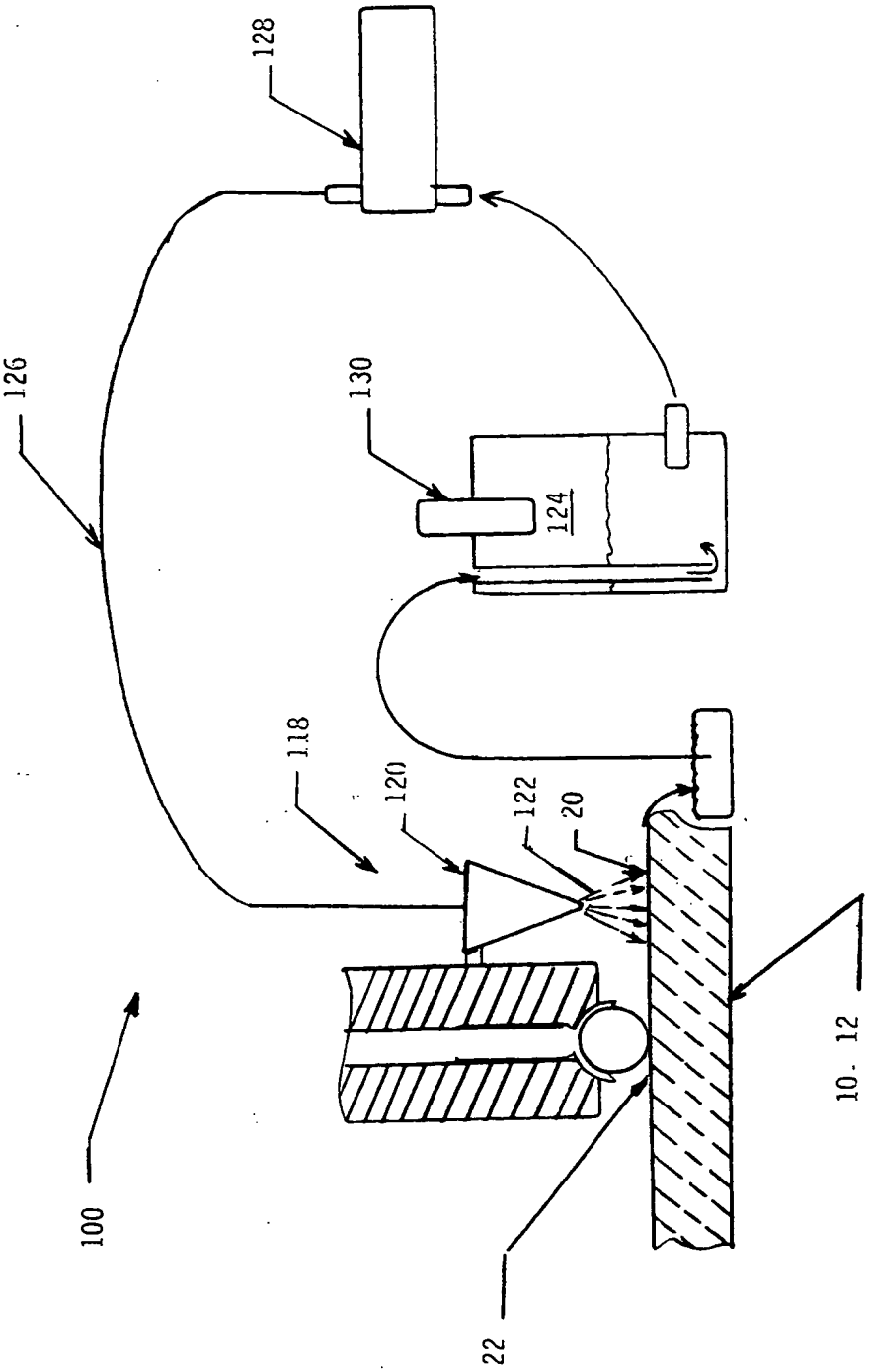


FIG. 7

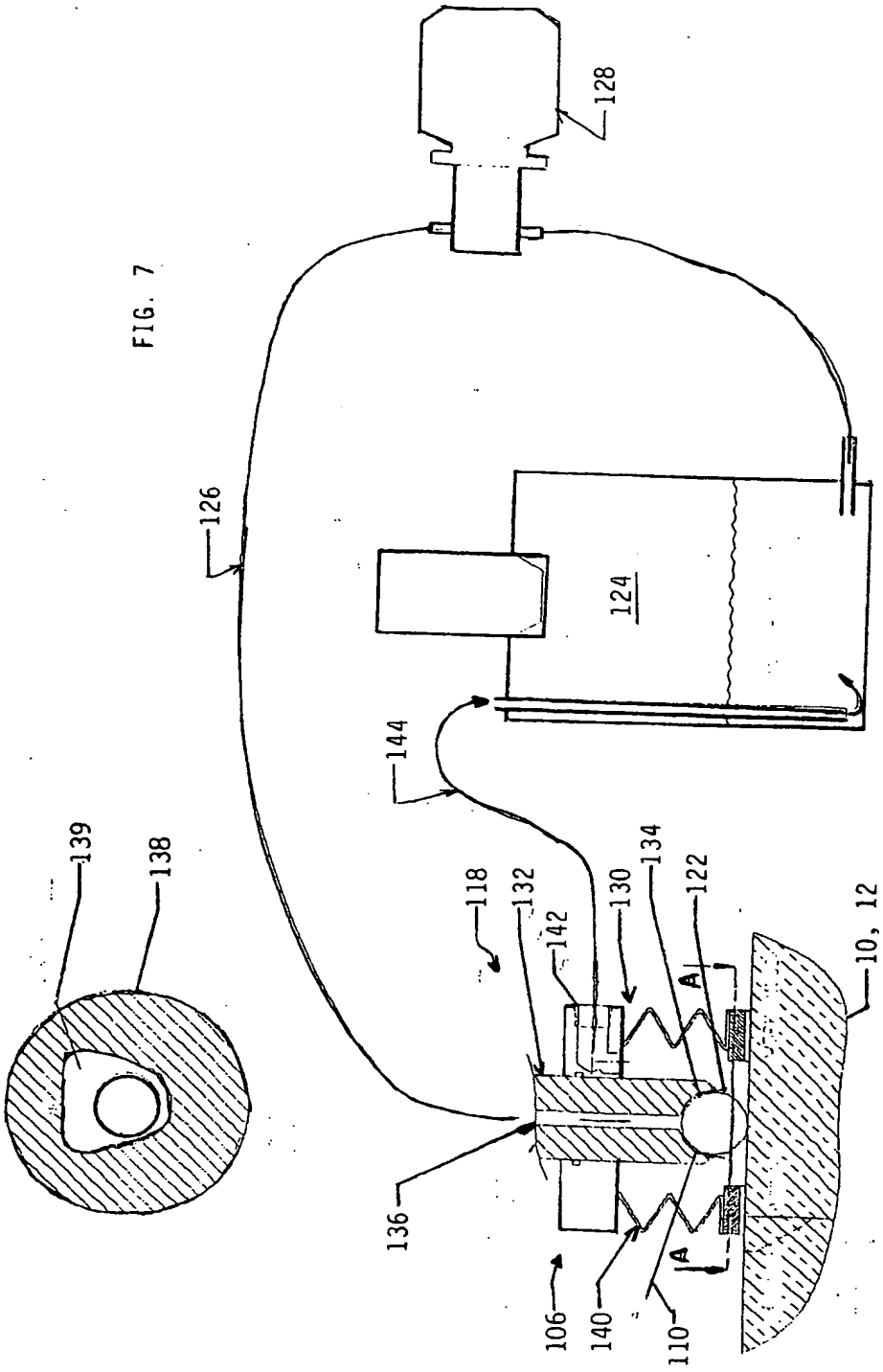

128
126
124
144
118
132
142
130
134
122
10, 12
A
A
136
106
140
110

FIG. 8

139
138

SURFACE RESIDUAL STRESS DISTRIBUTION

FIG. 9

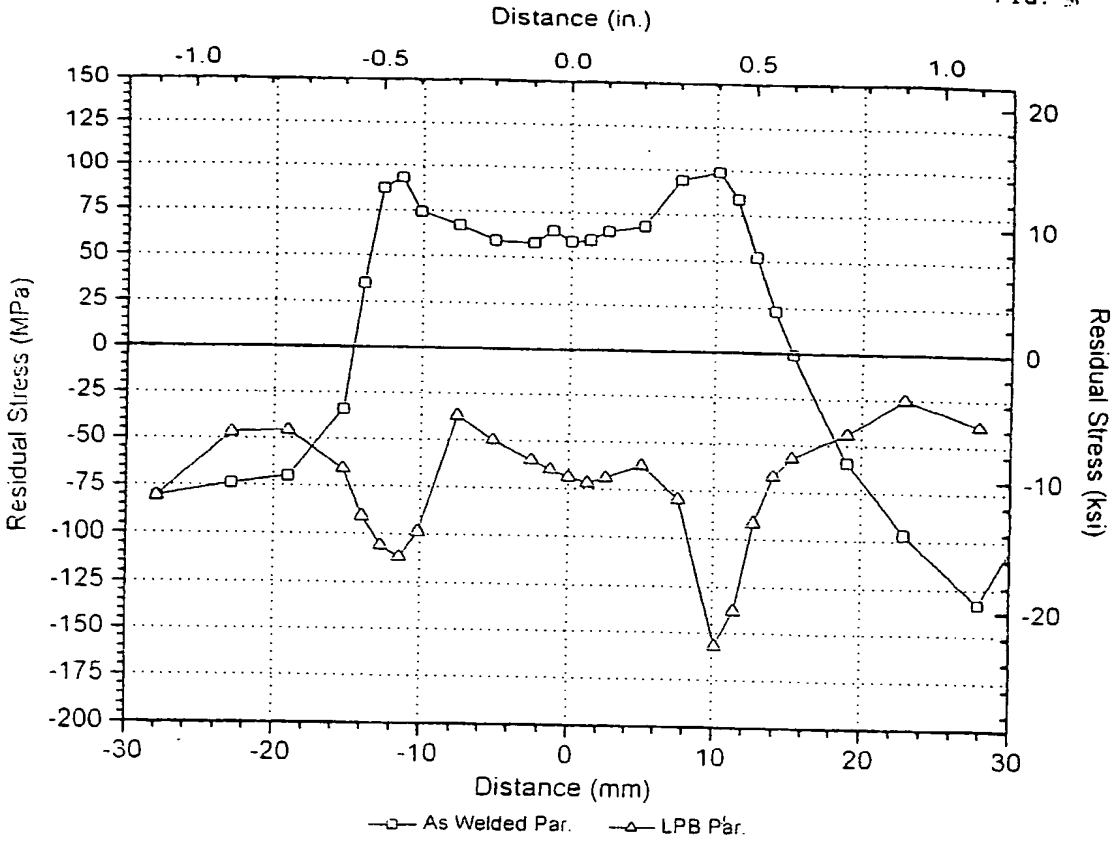
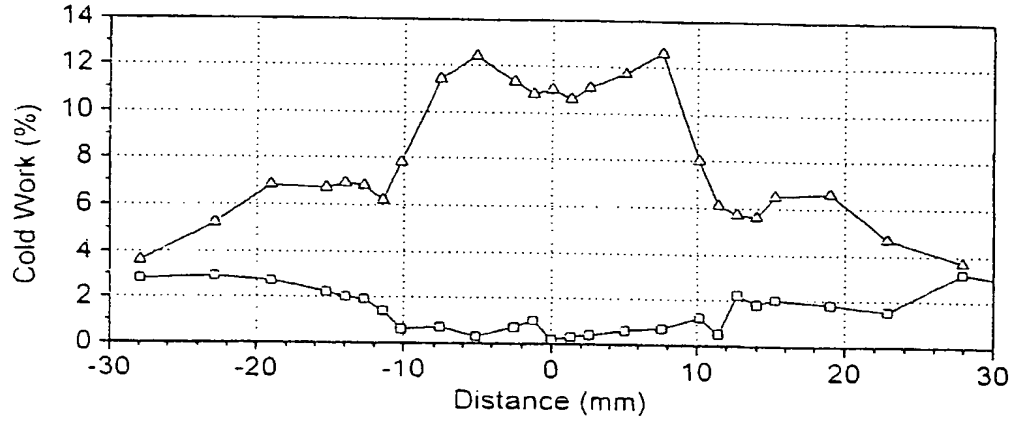


FIG. 10

(311) AVERAGE COLD WORK DISTRIBUTION



2024-T351 ALUMINUM FRICTION STIR WELDMENT
Weld Side Surface